

## **Remarks**

As stated above, the applicants appreciate the Examiner's thorough examination of the subject application and request reexamination and reconsideration of the subject application in view of the preceding amendments and the following remarks.

Concerning Items 3-4 of the subject action, the Examiner rejects claims 1-3, 11, 12, 20 and 21, under 35 USC §102(e), based on the teachings of Doucette et al. (US Patent No. 6,108,346; herein after Doucette).

Applicants claim (in previously presented claim 1):

a system for transmitting and receiving TDM control data in a TDM communication network, comprising: a single master control source for providing the TDM control data; and, one or more slave TDM multiplexors within the TDM communications network, communicating via a TDM signal, each of the slave TDM multiplexors including (i) a transmitter component for accepting the TDM control data from the master control source, and inserting the TDM control data into the TDM signal; (ii) a receiver component for extracting the TDM control data in the TDM signal and passing the TDM control data to a local control processor; and, (iii) a bridging component for passing TDM control data along to the next TDM multiplexor, independent of the local control processor.

Applicants respectfully assert that Doucette fails to at least disclose "a system for transmitting and receiving TDM control data in a TDM communication network". Accordingly, the applicants respectfully assert that the Doucette is not a proper basis for a 35 USC §102(e) rejection, as the reference fails to disclose each and every element of the applicants' claimed invention.

As described in the subject application, the disclosure relates to information from multiple channels being transported via a single physical link. The channel information is appropriately inserted into fixed-length frames. In particular, the information is inserted (in a time-multiplex manner) into one or more slots of consecutive frames. Along with each frame having the same length, the time slots recur in the same position for each frame. Thus, for the T1 TDM protocol (in which each frame includes twenty-four time slots), for example, time slot sixteen occurs in the same position of each frame. Similarly, for the E1 TDM protocol, each frame includes thirty-two time slots that recur in the same position for each frame.

In regard to TDM, the subject application discloses:

“TDM systems provide a convenient method of transporting multiple channels of digital data via a single physical link. T1 and E1 are two exemplary TDM protocols well known to those in the art. The simplest form of a TDM communication system is a point to point system 10 with two TDM multiplexors 12 electrically coupled by some physical media 14 (e.g., an electrical cable), as shown in FIG. 1. Each TDM multiplexor can receive N discrete channels of channel data and transmit those channels in time-multiplexed slots arranged within consecutive frames. Further, each TDM multiplexor can receive transmitted frames and "de-multiplex" the data within the time-slots and distribute that data to the proper discrete channels. TDM multiplexors may also be used to form complex meshed networks combining ring and star topologies. Network access components such as multi-port switches and digital cross connect servers utilize TDM multiplexing functions to implement more complex network topologies.” (emphasis added) *See the subject application, page 2, line 19 to line 28.*

By implementing a TDM communication system that uses frames with fixed time slots, control signals may be inserted one or more time slots within a frame. In this regard, the subject application discloses:

“In one embodiment, the transmit interface device 118 inserts the control data into full DS0 time slot that is dedicated to the control signals. In another embodiment, the transmit interface device 118 inserts the control data into multiple DS0 time slots dedicated to the control signals. In yet another embodiment, the transmit interface device 118 inserts the control data into some fraction of a DS0 time slot. In this case, the remainder of the time not used by the control signals may be shared with another data source. (emphasis added) *See the subject application, page 8, line 3 to line 8.*

Accordingly, the applicants disclose and claim a system that is capable of inserting control signals into one time slot, multiple time slots, or a fractional portion of a time slot. Each time slot is included in a fixed-length frame that includes multiple time slots that recur in the same position for each frame.

In contrast, the Doucette discloses a system and method of transmitting synchronous and asynchronous data in a sequence of windows that include two variable length portions. In this regard Doucette discloses:

The time frame for communication on links 12 is divided into a sequence of windows. FIG. 3 illustrates a sequence of windows 50, individually identified as windows 50a, 50b, etc. Each window 50 is two millisecond long.

Each window 50 begins with a "start window" control character or field 52 (which is one byte long). The start window control character indicates the onset of a window 50. The remainder of each window 50 is dedicated first to all pending synchronous data transmissions and then to asynchronous data transmissions. More particularly, a first portion 54 of each window 50 is dedicated to exchange of all pending synchronous data packets 25. After all pending synchronous data packets 25 have been exchanged among modules 10, a second control character (not explicitly shown in FIG. 3) is transmitted around the ring to indicate the end of the synchronous transmissions. A second portion 56 of each window 50 is dedicated to exchange of asynchronous data packets 35. At the end of each window another control character (not explicitly shown in FIG. 3) is transmitted around the ring. As will be explained later, tokens and timing characters are also transmitted around the ring. (emphasis added) *See Doucette, column 5, lines 16-36.*

In addition to including only two portions in each window, each portion does not have a fixed length. Rather, the length of each portion is variable and is dependent upon the amount of synchronous and asynchronous data ready for transmission. In this regard, Doucette discloses:

The length of window 50 is two milliseconds long. The length of windows 50 is established by taking into account the bandwidth of the various communication paths. The length of window 50 is established so that all synchronous data can be delivered during each window and so that after the synchronous data is transmitted, sufficient reserve will remain in each window 50 to conduct exchange of asynchronous data. The actual allocation of a given window 50 between synchronous and asynchronous data is dynamic. The allocation depends on the amount of pending synchronous data packets 25 which must be transmitted during the first portion of a given window 50. As the number of telephone conversations increases, the portion 54 of window 50 used for such conversations increases.

Thus the allocation between synchronous and asynchronous data in a given window 50 is not fixed but rather a function of the amount of synchronous data pending at the beginning of the window 50 with the remaining portion 56 being used for asynchronous data. (emphasis added) *See Doucette, column 5, lines 38-56.*

Therefore, Doucette discloses a system for transmitting synchronous and asynchronous data within variable length portions of a window. However, Doucette fails to disclose a system for transmitting and receiving TDM control data in a TDM communication network. In particular, Doucette does not describe or suggest transmitting control data in time slots of TDM frames that recur in the same position of each frame.

Accordingly, the applicants respectfully assert that Doucette is not a proper basis for a 35 USC §102(e) rejection, as the reference fails to disclose each and every element of the applicants' claim 1. Therefore, the applicants respectfully assert that independent claim 1 is patentable over the cited reference. Further, as dependent claims 2-19 depend (either directly or indirectly) upon independent claim 1, the applicants respectfully assert that claims 2-19 are also patentable over the cited reference.

For at least the reasons discussed above, the applicants respectfully assert that Doucette is not a proper basis for a 35 USC §102(e) rejection, as the reference fails to disclose each and every element of independent claim 20 of the subject application. Therefore, the applicants respectfully assert that independent claim 20 is patentable over the cited reference. Further, as dependent claim 21 depends upon independent claim 20, the applicants respectfully assert that claim 21 is also patentable over the cited reference.

Concerning Items 5-10 of the subject action, the Examiner rejects claim 4-10, 13-15, 16-19 under 35 USC §103(a) based on the combination of Doucette and one of: ordinary skill in the art, Lebiay et al (US Patent No.: 5,602,841; herein after Lebizay); Eidson (US Patent No.: 6,370,159; hereinafter Eidson); Lang et al (US Patent No.: 6,188,699; hereinafter Lang); and Ohara et al (US Patent No.: 5,768,282; herein after Ohara).

Individually or in combination, these references are not understood to remedy the foregoing deficiencies of Doucette. For at least the reasons discussed above, the applicants respectfully assert that independent claim 1 is patentable over the combination of Doucette and any one or more of these references. Accordingly, as dependent claims 2-19 all depend (either directly or indirectly) upon independent claim 1, the applicants respectfully assert that dependent claims 2-19 are patentable over the combination of Doucette and any of Lebizay, Eidson, Lang, Ohara and/or ordinary skill in the art.

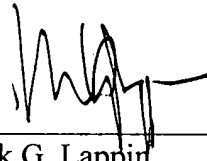
Summarizing, claims 1-21 are pending in the subject application, and claims 5-10, 12, and 18-19 are original. No new matter has been added by these amendments. The applicants respectfully assert that the subject application is now in condition for allowance. Please apply any charges or credits to deposit account 50-1133.

If the Examiner believes there are any outstanding issues to be resolved with respect to the above-identified application, the Examiner is invited to telephone the undersigned at their earliest convenience so that such issues may be resolved telephonically.

Respectfully submitted,

Date: \_\_\_\_\_

16/18/05



\_\_\_\_\_  
Mark G. Lappin  
Reg. No.: 26,618  
McDermott Will & Emery LLP  
28 State Street  
Boston, MA 02109  
V: (617) 535-4403  
F: (617) 535-3800  
E: mlappin@mwe.com